Electrochemical Journals, AIP's Scitation, Cost-Effectiveness

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Nearly 40 years ago, in my first library job, I overheard The Electrochemical Society (ECS) disparaged as a 'Neanderthal' society, which might explain the initial popularity of the commercially published Journal of Electroanalytical Chemistry (JEC), Electrochimica Acta (ECA) and Journal of Power Sources (JPS). This characterization certainly hasn't been true for many years(1) and, with the 2003 annual costs of JEC(nearly $10K for less than 4K pages), ECA over $3.6K (for less than 4.4K pages) & JPS (over $3.3K for about 4500 pages), one is hard pressed not to ruminate on the cost/page data, for these commercially published journals, compared with the Journal of The Electrochemical Society (JES), which was priced at only $692 for about 5400 pages.

The transition of the electronic versions of the ECS research journals--JES & Electrochemical and Solid State Letters (ESL)-- in 2004 to AIP's new Scitation publishing platform (formerly OJPS), is very welcome news(2). Scitation [http://scitation.aip.org/] currently includes 110 journals from 18 STM publishers, providing both forward and backward reference linking from over 600,000 articles (growing at a rate of 6,000 per month). Journals can be browsed by title, publisher or subject category. A wide variety of features for individualization are available (e.g. MyTOCAlerts) and new features are scheduled for 2004. Keyword searching of SPIN + Scitation articles is available for library or personal subscribers, with keyword searching of Scitation abstracts freely available with registration. Scitation's publisher list currently includes the expected (e.g. AIP journals, etc.) as well as: APS, ASCE, ASME, ACS Geochem. Div., ECS, ICDD, Maik Nauka, SPIE, etc. Fulltext articles can be displayed, by subscribers, as PDFs, HTML or sectioned HTML.

The Scitation abstract record may also include both 1) References, which are linked to: fulltext, arXiv, INSPEC, ISI, Medline, SPIN, ChemPort(which can provide a SFX link to library services), etc. and 2) Citing Articles. This reference linking feature is based on the 12M citations in the CrossREF database. Data from Scitation can be exported into bibliographic management software (EndNote, BibTEX/RevTEX, etc.) or directly into manuscripts.

Society publishers, such as those represented in Scitation, are a significant factor in the STM publishing community and are responsible for about 50% of all peer-reviewed journals (3). As is obvious, from the quick comparison of JES, ECA, JPS & JEC above, society and commercial publishers have significantly different business models. Freed of the necessity of returning dividends to stockholders, societies are generally only answerable to their members (who are generally also their authors, readers and subscribers, albeit indirectly thru their libraries).

Authors are desirous of publishing in the highest quality venue that is able to communicate their findings quickly and broadly. In the example below (which also includes the commercially published Electrochemistry Communications (ECC), it is worth comparing the 2002 ISI Impact Factors for JES(2.33), ECA(2.078), JEC(2.027) as well as ESL (2.505), and ECC (1.906). This assists in differentiating these journals on the basis of their relative cost-effectiveness, the normalized cost per article per ISI Impact Factor.

JOURNAL	2002 $subscription	# of articles	ISI Impact Factor	(cost/article/IF)	cost effectiveness
JES	$600	721	2.330	0.36	1.00
JPS	$3,073	475	1.777	3.64	10.11
ECA	$3,682	417	2.078	4.25	11.80
JEC	$8,428	416	2.027	10.00	27.78
ESL	$250	199	2.505	0.50	1
ECC	$429	191	1.906	1.18	2.36

Assuming that this Cost Effectiveness measure results in a meaningful comparison, The Electrochemical Society's flagship journal (JES) is over 27 times, nearly 12 times and over 10 times as cost effective, respectively, as its commercial counterparts (JEC, ECA & JPS). Similarly ESL is over twice as cost effective as ECC.

Given this comparison, which can be generalized both to other societies and other scientific fields, it is highly unfortunate that society publishers are being included with their commercial counterparts as contributors to library budget problems. In addition, the questionable suggestion that scientific research should be freely available ignores the essential contribution of publishers in providing mechanisms for peer-review and sustainable publication. Proposals for authors posting their articles on the WWW (self-archiving) or paying substantial charges for publication (Open Access journals) are problematic in the sense that these two approaches are highly unlikely to produce a critical mass. Peer-review, editing and formatting, distribution and archiving are serious concerns that should not be dismissed or ignored.

1. Pennington Corner: 2003 .. Best Year Ever? Electrochem. Soc. Interface (2004), 13(1), 7. http://www.electrochem.org/publications/interface/spring2004/IF3-04-Page7.pdf

2. Society News: New Features for ECS Online Journals [Scitation]. Electrochem. Soc. Interface (2004), 13(1), 11. http://www.electrochem.org/publications/interface/spring2004/IF3-04-Pages10-14.pdf

3. Yess, Mary E., State of the Union: Publishing ECS Content. Electrochem. Soc. Interface (2004), 13(1), 15-16,52-53. http://www.electrochem.org/publications/interface/spring2004/IF3-04-Pages15-16,52-53.pdf